



DEPARTMENT OF THE ARMY

HEADQUARTERS, USA MEDICAL DEPARTMENT ACTIVITY
126 MISSOURI AVENUE
FORT LEONARD WOOD, MISSOURI 65473

MCXP-PMD-EH

27 April 2005

MEMORANDUM THRU Chief, Preventive Medicine Division, General Leonard Wood Army Community Hospital, Fort Leonard Wood, Missouri 65473-8952.

FOR Commander, USA MEDDAC, General Leonard Wood Army Community Hospital, Fort Leonard Wood, Missouri 65473-8952.

SUBJECT: Heat Categories and Clothing Recommendations

1. REFERENCE.

1. TRADOC Regulation 350-29, Prevention of Heat and Cold Casualties.
2. US Army Center for Health Promotion and Preventive Medicine (CHPPM).
3. FLW Reg. 385-1, Preventing Weather Related Accidents and Injuries.
4. FLW Reg. 210-14, Installation Ranges and Training Areas.
5. FLW Range Control Cadre at 573-596-2525.

2. RESPONSIBILITIES.

a. Commanders of IET units will ensure that one serviceable Wet Bulb Globe Temperature (WBGT) kit is issued to each training company. During the hot weather season, IET units will take onsite WBGT index readings to determine the applicable Heat Category. Uniform modifications will be made at the discretion of the senior Commander.

b. Commanders will ensure there is an effective notification system providing all levels of their organization with timely knowledge of current WBGT index.

c. Range Control will provide information on the current WBGT index to all permanent party units training outside the cantonment area. Units requesting the heat index must call 6-2525 to obtain the current Heat Category. When the WBGT Index exceeds 90 degrees (Category 5), Range Control will notify the senior trainer on each site by radio net. Each unit is responsible for implementing internal controls to ensure the safety of their soldiers.

d. Preventive Medicine Division. Obtains the current Heat Category from Range Control (6-2525) and provides the information on request to requesting activities in the cantonment area.

3. CLOTHING AND EQUIPMENT. **Note: Add 5 degrees to WBGT for rucksack or body armor. Add 10 degrees to WBGT if in MOPP 4.**

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- a. **Heat Category 1-2:** No restrictions.
 - b. **Heat Category 3:** Commanders should direct training soldiers to unblouse BDU trousers, roll up BDU trousers to boot top, unbuckle web belt, and remove Body Armor.
 - c. **Heat Category 4:** Same as Heat Cat 3 plus: Unbutton BDU blouse sleeves and cuff x2, remove t-shirt from under BDU top, or remove BDU top down to t-shirt (remove t-shirt and wear BDU top if there is direct sun exposure or the presence of biting insects), replace helmet with soft cap unless needed for safety, and decrease backpack load to <30 lbs
 - d. **Heat Category 5:** Same as Heat Cat 4 plus: Remove backpack
4. **WET BULB GLOBE TEMPERATURE (WBGT) INDEX/ RISK MANAGEMENT MATRIX.** The following chart indicates how the WBGT index is used to recommend work, rest, and water consumption for military personnel.

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Work/Rest and Water Consumption Table

Applies to average sized, heat-acclimated soldier wearing BDU, hot weather. (See TB MED 507 for further guidance.)

Easy Work	Moderate Work	Hard Work
<ul style="list-style-type: none"> • Weapon Maintenance • Walking Hard Surface at 2.5 mph, < 30 lb Load • Marksmanship Training • Drill and Ceremony • Manual of Arms 	<ul style="list-style-type: none"> • Walking Loose Sand at 2.5 mph, No Load • Walking Hard Surface at 3.5 mph, < 40 lb Load • Calisthenics • Patrolling • Individual Movement Techniques, i.e., Low Crawl or High Crawl • Defensive Position Construction 	<ul style="list-style-type: none"> • Walking Hard Surface at 3.5 mph, ≥ 40 lb Load • Walking Loose Sand at 2.5 mph with Load • Field Assaults

- The work/rest times and fluid replacement volumes will sustain performance and hydration for at least 4 hrs of work in the specified heat category. Fluid needs can vary based on individual differences ($\pm \frac{1}{4}$ qt/hr) and exposure to full sun or full shade ($\pm \frac{1}{4}$ qt/hr).

• NL = no limit to work time per hr.

- Rest = minimal physical activity (sitting or standing) accomplished in shade if possible.

- **CAUTION:** Hourly fluid intake should not exceed $1\frac{1}{2}$ qts.

Daily fluid intake should not exceed 12 qts.

- If wearing body armor, add 5°F to WBGT index in humid climates.

- If doing Easy Work and wearing NBC (MOPP 4) clothing, add 10°F to WBGT index.

- If doing Moderate or Hard Work and wearing NBC (MOPP 4) clothing, add 20°F to WBGT index.

Heat Category	WBGT Index, F°	Easy Work		Moderate Work		Hard Work	
		Work/Rest (min)	Water Intake (qt/hr)	Work/Rest (min)	Water Intake (qt/hr)	Work/Rest (min)	Water Intake (qt/hr)
1	78° - 81.9°	NL	$\frac{1}{2}$	NL	$\frac{3}{4}$	40/20 min	$\frac{3}{4}$
2 (GREEN)	82° - 84.9°	NL	$\frac{1}{2}$	50/10 min	$\frac{3}{4}$	30/30 min	1
3 (YELLOW)	85° - 87.9°	NL	$\frac{3}{4}$	40/20 min	$\frac{3}{4}$	30/30 min	1
4 (RED)	88° - 89.9°	NL	$\frac{3}{4}$	30/30 min	$\frac{3}{4}$	20/40 min	1
5 (BLACK)	> 90°	50/10 min	1	20/40 min	1	10/50 min	1

For additional copies, contact: U.S. Army Center for Health Promotion and Preventive Medicine Health Information Operations Division at (800) 222-9698 or CHPPM - Health Information Operations@apg.amedd.army.mil.

For electronic versions, see <http://chppm-www.apgea.army.mil/heat>. Local reproduction is authorized.

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H.E.A.T. IMT Heat Injury Risk Management Matrix (AUG 04)				
Risk Factors	Risk Level			
	Circle the appropriate condition for each factor			
	0 Low Risk	1 Medium Risk	2 High Risk	3 Extreme Risk
Risk Management Worksheet	All controls implemented			Not all controls implemented
WBGT at site NOTE: Add 5 F. for backpack or body armor	< Cat 1	Cat 1	Cat 2-3	Cat 4-5
Back-to-back Cat 5 days	0	1	2-3	>4
Heat Injuries in past 2 days	0	Heat Cramps	Heat Exhaustion	Heat Stroke/ Death
Workload in past 2 days (see TR 350-29 workload classification chart)	Easy	Easy or Moderate	Moderate or Hard	Hard
Projected workload	Easy	Easy or Moderate	Moderate or Hard	Hard
Heat acclimatization days	>13	7-13	3-6	<3
Leader/NCO presence	Full Time	Substantial	Minimal	None
Cadre duty experience	18 months	7-18 months	1-6 months	<1 month
Communication System (tested at training site)	Radio and phone	Phone only	Radio only	None
Previous 24 hours sleep	>7 hours	5-7 hours	2-4 hours	<2 hours
Food/salty snacks every 4 hours	<4 hours	4-6 hours	6-7 hours	>7 hours
Onsite 91W/CLS and iced sheets (8 single bed sheets/company in large ice water cooler)	Both	Iced sheets	91W/CLS	None
Add Circled Blocks:				
Total Score: 0-7 = Low Risk; 7-15 = Medium Risk; 16-24 = High Risk; 25-39 = Extreme Risk >11 Total Score should have onsite 91W, Medic, and organic evacuation transportation.				

6. POINT OF CONTACT. POC for this memo is CPT Jim Houlihan at 573-596-9593.

APPROVED BY:

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